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Chapter 1.1

Prevalence of cardiovascular diseases in psoriatic arthritis resembles that of rheumatoid arthritis

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The increased risk for cardiovascular disease (CVD) in rheumatoid arthritis is nowadays well known and inflammation appears to play a pivotal, etiological, role. Subsequently, substantial interest has risen in whether or not psoriatic arthritis (PsA) is also associated with an enhanced CV risk. However, data on CVD in PsA is limited.[1,2,3] The aim of this comparative study was to determine the prevalence of nonfatal CVD in PsA patients compared to patients with RA and to investigate the risk factors of CVD in PsA.

In 2008 a cardiovascular questionnaire was sent to all 753 PsA patients aged between 50-75 years registered at our center.[4] As comparator group data from 353 randomly selected RA patients aged between 50-75 years, the CARRÉ study, was used.[5] In all patients CVD was defined as a history of myocardial infarction, stroke and/or transient ischemic attack, verified by written documentation of the event. To study the CV risk factors each PsA patient with a history of CVD (case) and three randomly selected age and gender matched PsA patients (control) without CVD attended the outpatient clinic for clinical investigation. Logistic regression was used to perform the analysis.

The response rate on the cardiovascular questionnaire was 65%. Female patients were less likely to respond than male patients (p=0.008). The prevalence of CV diseases was 10% in PsA patients compared to 12% in RA patients (OR=0.78; 95%-CI:0.51-1.20; p= 0.264). The age and gender stratified odds ratios showed no significant difference between RA and PsA patients (Table 1).

Table 1. Prevalence of CVD in PsA compared to RA

	PsA			**RA**				
	number of patients	CVD	Prevalence	number of patients	CVD	Prevalence	p-value	OR (95%CI)
Total	489	49	10.0	353	44	12.4	0.264	0.78 (0.51; 1.20)
Male								
50-65	214	17	7.9	77	11	14.3	0.106	0.52 (0.23; 1.16)
66-75	59	16	27.1	44	11	25.0	0.809	1.11 (0.46; 2.70)
Total	273	33	12.1	121	22	18.2	0.107	0.62 (0.34; 1.11)
Female								
50-65	168	11	6.5	141	9	6.4	0.953	1.03 (0.41; 2.56)
66-75	48	5	10.4	91	13	14.3	0.518	0.70 (0.23; 2.08)
Total	216	16	7.4	232	22	9.5	0.431	0.76 (0.39; 1.49)

PsA = psoriatic arthritis; RA = rheumatoid arthritis; OR = Odds Ratio.

The results of cross-sectional analysis are shown in Table 2

Table 2. Comparison of PsA patients with and without CVD

	Patients with CVD (n = 40)	Patients without CVD (n = 120)	p-value
Demographic data			
Age, years	64 ± 6.5	63 ± 5.4	0.378
Male, %	63	63	1.000
Cardiovascular risk factors			
Hypertension, %	90	56	<0.001
Dyslipidemia, %	88	57	<0.001
Smoking, pack years	14.7 ± 18.7	15.4 ± 19.5	0.839
Diabetes mellitus, %	20	13	0.306
BMI (kg/m2)	28 ± 5.3	27 ± 5.0	0.160
Waist to hip ratio	0.96 ± 0.10	0.96 ± 0.08	0.925
PsA-specific factors			
Duration of PsA	13 (6-20)	14 (9-24)	0.511
Duration of psoriasis	19 (10-38)	22 (13-38)	0.283
DAS28	3.3 ± 1.3	2.8 ± 1.2	0.028
CRP (mg/L)	3.0 (1.0-5.0)	3.0 (1.0-5.8)	0.863
ESR (mm/h)	15 (6-26)	11 (6-20)	0.216
PASI	0.60 (0-2.00)	0.60 (0-3.38)	0.895
HAQ	0.63 (0.25-1.16)	0.38 (0-0.72)	0.005
Orthopedic surgery, %	40	27	0.111
Tender joint count	3.0 (0-6.0)	2.0 (0-5.0)	0.128
Swollen joint count	1.0 (0-3.0)	0 (0-2.0)	0.403
Medication			
Current DMARDs, %	58	48	0.315
Previous DMARD, %	18	35	0.038
Current MTX, %	40	38	0.851
Previous MTX, %	10	17	0.444
Current Prednisone, %	5	3	0.640
Previous Prednisone, %	8	4	0.414
Current TNF-inhibitor, %	13	10	0.657

Data are represented as mean ± standard deviation (SD), median and interquartile range (IQR), or percentages

This study demonstrates, for the first time, that the prevalence of CVD in PsA resembles the CV risk of RA. Furthermore, in our cross-sectional analysis we found a significant association between severity of disease measured by DAS28 and disability index measured by HAQ and a history of CVD.

Many hypotheses exist to explain the increased CV risk in inflammatory rheumatic diseases, including increased prevalences of traditional CV risk factors and inflammation, which contributes considerably to all stages of atherosclerosis.[6,1,7,8,9] A major area of research is to investigate the mechanisms by which inflammation interacts with conventional CV risk factors and enhances the atherosclerosis.

The limitations of this study are low response rate on cardiovascular questionnaire and lack of direct comparison between PsA patients and the general population. Due to the response rate of 65% the CV prevalence in PsA might be overestimated as patients with CV event were possibly more willing to participate. Otherwise when conformation of the CV event was lacking, the patient was considered as non-event, which possibly led to underestimation of the prevalence rate. Additionally, this study was limited to patients 50-75 years old and nonfatal CV events. The results might be different for younger/older subjects or fatal CV events. Obviously our findings need to be confirmed in other larger studies. However, despite the limitations this study emphasize the increased CV burden in PsA, and for the first time we showed that its magnitude resembles that of RA.

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Reference List

1. Gladman D D, Ang M, Su L, et al. Cardiovascular morbidity in psoriatic arthritis. *Ann Rheum Dis.* 2009;68:1131-1135.
2. Han C, Robinson D W, Jr., Hackett M V, et al. Cardiovascular disease and risk factors in patients with rheumatoid arthritis, psoriatic arthritis, and ankylosing spondylitis. *J Rheumatol.* 2006;33:2167-2172.
3. Tobin A M, Veale D J, Fitzgerald O, et al. Cardiovascular disease and risk factors in patients with psoriasis and psoriatic arthritis. *J Rheumatol.* 2010;37:1386-1394.
4. Moll J M and Wright V.Psoriatic arthritis. *Semin Arthritis Rheum.* 1973;3:55-78.
5. Van Halm V P, Peters M J, Voskuyl A E, et al. Rheumatoid arthritis versus diabetes as a risk factor for cardiovascular disease: a cross-sectional study, the CARRE Investigation. *Ann Rheum Dis.* 2009;68:1395-1400.
6. Gladman D D, Farewell V T, Wong K, et al. Mortality studies in psoriatic arthritis: results from a single outpatient center. II. Prognostic indicators for death. *Arthritis Rheum.* 1998;41:1103-1110.
7. Kitas G D and Erb N.Tackling ischaemic heart disease in rheumatoid arthritis. *Rheumatology (Oxford).* 2003;42:607-613.
8. La Montagna G, Cacciapuoti F, Buono R, et al. Insulin resistance is an independent risk factor for atherosclerosis in rheumatoid arthritis. *Diab Vasc Dis Res.* 2007;4:130-135.
9. Luc G, Bard J M, Juhan-Vague I, et al. C-reactive protein, interleukin-6, and fibrinogen as predictors of coronary heart disease: the PRIME Study. *Arterioscler Thromb Vasc Biol.* 1-7-2003;23:1255-1261.